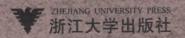
Advances in Concrete Structural Durability

Proceedings of the International Conference on Durability of Concrete Structures ICDCS 2008

..... Editors

Volume 1

Wei-Liang JIN Tamon UEDA P. A. Muhammed BASHEER



Advances in **Concrete Structural Durability**

Proceedings of ICDCS2008







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Preface

Concrete structures are the most widely used construction in the world. It is now generally accepted that concrete structures deteriorate with time. Attention is being paid globally to the issue of concrete structural durability. Undesirable concrete durability includes multi aspects such as concrete material, concrete structural components and concrete structures. The most important aspect is concrete structures.

In order to review the research findings and the recent developments in the durability of concrete structures, an International Conference on Durability of Concrete Structures (ICDCS) have been held. The aim of the conference is to bring together leading experts in this field from around the world to present the latest developments, share recent achievements, discuss current problems, address future challenges on durability issues of concrete structures and provide learning opportunities for young students. This international colloquium series, which now travels to Hangzhou, China, will certainly continue in the future.

The International Conference on Durability of Concrete Structures have been sponsored by the American Concrete Institute, Asian Concrete Federation, China Civil Engineering Society, International Committee on Concrete Model Code for Asia, Japan Concrete Institute, Japan Society of Civil Engineers, National Natural Science Foundation of China, International Union of Laboratories and Experts in Construction Materials, Systems and Structures, the Y.C. Tang Disciplinary Development Fund of Zhejiang University, International Journal of Modelling, Identification and Control, and International Journal of Structural Engineering.

This two-volume book constitutes the Proceeding of the International Conference on Durability of Concrete Structures (ICDCS 2008) and contains all the 6 keynote papers, 18 invited papers and 175 selected papers. These papers not only report the results of recent research but also discuss the technical developments in the durability of concrete structures.

As Chair of the Organizing Committees of ICDCS2008, I am indebted to all the sponsors and supporting organizations for their financial and technical supports and to all authors for their contributions in the field of durability of concrete structures. Appreciation is also due to members of the Advisory and Academic Committee for review and selection of papers and their advice in preparation of the conference. Grateful thanks are also due to the members of the Organizing Committees, for the amount and quality of their work—their advices, constant support and encouragement were essential to the success of ICDCS2008. Finally, one last word of appreciation for the financial support provided by the National Natural Science Foundation of China, the Y.C. Tang Disciplinary Development Fund of Zhejiang University, and Hokkaido University, Japan.

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Keynote Paper